

CLAIMS

I claim:

1 1. A cooling tunnel for articles of candy, comprising:
2 a driven conveyor belt being designed and arranged to support articles of candy and to
3 convey them through said cooling tunnel in a moving direction;
4 a treating region for articles of candy, said treating region being surrounded by an
5 insulating plate and by a cover;
6 an upper cooling unit being arranged in a region above said conveyor belt, said upper
7 cooling unit including a channel being designed and arranged for cooling air to flow
8 therethrough; and
9 a bottom cooling unit being arranged in a region below said conveyor belt, said
10 bottom cooling unit including a cooling plate being designed and arranged for cooling liquid
11 to flow therethrough, said cooling plate in said treating region being designed and arranged to
12 be spaced apart from said insulating plate in a vertical direction, a free space being formed
13 between said cooling plate and said insulating plate.

1 2. The cooling tunnel of claim 1, wherein the free space and said cooling plate each have
2 a height, and wherein the sum of the heights of the free space and of said cooling plate
3 corresponds to the sum of the heights of a channel and of a belt supporting sheet of a prior art
4 cooling tunnel.

1 3. The cooling tunnel of claim 1, further comprising a plurality of distance elements,

2. said cooling plate in said treating region being supported on said distance elements.

1 4. The cooling tunnel of claim 2, further comprising a plurality of distance elements,
2 said cooling plate in said treating region being supported on said distance elements.

1 5. The cooling tunnel of claim 3, wherein the free space has a width, and wherein said
2 distance elements are arranged to be distributed over the width of the free space.

1 6. The cooling tunnel of claim 4, wherein the free space has a width, and wherein said
2 distance elements are arranged to be distributed over the width of the free space,

1 7. The cooling tunnel of claim 1, wherein the free space is designed as a channel.

1 8. The cooling tunnel of claim 2, wherein the free space is designed as a channel.

1 9. The cooling tunnel of claim 3, wherein the free space is designed as a channel.

1 10. The cooling tunnel of claim 7, wherein said channel is designed as a return conduit of
2 said upper cooling unit.

1 11. The cooling tunnel of claim 8, wherein said channel is designed as a return conduit of
2 said upper cooling unit.

1 12. The cooling tunnel of claim 9, wherein said channel is designed as a return conduit of
2 said upper cooling unit.

1 13. The cooling tunnel of claim 10, wherein said channel is designed to be open in a
2 lateral direction and to be surrounded by said cover.

1 14. The cooling tunnel of claim 11, wherein said channel is designed to be open in a
2 lateral direction and to be surrounded by said cover.

1 15. The cooling tunnel of claim 12, wherein said channel is designed to be open in a
2 lateral direction and to be surrounded by said cover.

1 16. An apparatus for cooling articles of candy, comprising:
2 a driven conveyor belt being designed and arranged to convey articles of candy
3 through said apparatus in a moving direction;
4 an insulating plate;
5 a cover, said cover and said insulating plate being designed and arranged to form a
6 region of treatment for articles of candy;
7 an upper cooling unit being substantially arranged in a region above said conveyor
8 belt, said upper cooling unit including a channel for cooling air; and
9 a lower cooling unit being substantially arranged in a region below said conveyor belt,
10 said lower cooling unit including a cooling plate for a cooling fluid, said cooling plate being
11 designed and arranged to be substantially spaced apart from said insulating plate in a vertical
12 direction.

1 17. The apparatus of claim 16, wherein a free space is formed between said cooling plate
2 and said insulating plate.

1 18. The apparatus of claim 16, wherein a channel is formed between said cooling plate
2 and said insulating plate.

1 19. The apparatus of claim 16, wherein said conveyor belt is located at a working height
2 corresponding to a working height of prior art cooling tunnels including a bottom cooling unit
3 including a channel for cooling air.

1 20. The apparatus of claim 17, wherein the free space and said cooling plate each have a
2 height, and wherein the sum of the heights of the free space and of said cooling plate
3 corresponds to the sum of the heights of a channel and of a belt supporting sheet of a prior art
4 cooling tunnel.

1 21. The apparatus of claim 18, wherein said channel being formed between said cooling
2 plate and said insulating plate and said cooling plate each have a height, and wherein the sum
3 of the heights of said channel and of said cooling plate corresponds to the sum of the heights
4 of a channel and of a belt supporting sheet of a prior art cooling tunnel.

1 22. The apparatus of claim 16, further comprising a plurality of distance elements, said
2 cooling plate being supported on said distance elements.

1 23. The apparatus of claim 17, further comprising a plurality of distance elements, said
2 cooling plate being supported on said distance elements.

1 24. The apparatus of claim 18, further comprising a plurality of distance elements, said
2 cooling plate being supported on said distance elements.

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1 25. The apparatus of claim 18, wherein said channel being formed between said cooling
2 plate and said insulating plate is designed as a return conduit of said upper cooling unit.

- 1 26. The apparatus of claim 25, wherein said channel being formed between said cooling
- 2 plate and said isolating plate is designed to be open in a lateral direction and to be
- 3 surrounded by said cover.